Osteotomy reconstruction surgery for Pilon fracture malunion
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Introduction/Purpose: To evaluate the clinical outcomes of distal tibial osteotomy and alignment reconstruction for Pilon fracture malunion.

Methods: Between January 2010 and May 2012, 15 cases of Pilon fracture malunion were treated with super-malleolar extra-articular or intra-articular osteotomy and alignment reconstruction. They were 12 males and 3 females with an average age of 30.8 years. The pre-operative X-ray and CT scan showed varus deformity in 9 cases and valgus in 6. All the patients complained about ankle pain, deformity, limited range of motion and walking difficulty.

Results: 13 cases obtained an average final follow-up of 23.8 months. The average VAS score declined significantly from 5.1±3.2 preoperatively to 1.4±0.8 postoperatively (P<0.05). A complete pain relief was achieved in 8 cases. The AOFAS ankle and hindfoot score, SF-36 score, ankle ROM at the last follow-up were improved significantly compared with the pre-operative ones (P<0.05). No implant failure, soft tissue complications occurred during the follow-up.

Conclusion: Distal tibial osteotomy and alignment reconstruction is an effective treatment of Pilon fracture malunion, because this strategy can restore the lower limb alignment, relieve pain and decrease the rate of long-term post-traumatic arthritis.